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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,294	03/12/2004	Bjorn Paulshus	7822-91660	8246

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EXAMINER	
GARCIA, ERNESTO	

ART UNIT	PAPER NUMBER
3679	

DATE MAILED: 11/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/800,294	PAULSHUS, BJORN	
	Examiner	Art Unit	
	Ernesto Garcia	3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 June 2006 and 28 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *22-29,31,32 and 34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *22-27,29,31,32 and 34* is/are rejected.

7)☒ Claim(s) *28* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 April 2005* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Drawings

The drawings were received on June 5, 2006. These drawings are not acceptable because sheet 2 does not comply with 37 CFR 1.121. Note that the second sheet must be labeled as "New Sheet" since this sheet does not replace an existing sheet 2. Applicant needs to resubmit the sheets in the next response since the sheets have not been entered. Further, the objections are still pending and the proposed changes still contain discrepancies.

The drawings are objected to because the reference character 1 has not been depicted with an arrow. Note the objection below. Further, the drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "2" (Figure 1), "2a" (Figure 2), and "2b" (Figure 2) have been used to designate the same strands.

The drawings are objected to because reference character should be placed on Figure 2 to show the individual filaments or rods. Reference character 3 in Figure 1 appears to point to the same component as that of reference character 2. Reference

character 2 in Figure 1 should have two more lead lines leading to the other two unreferenced strands. Further, reference character 1 should be arrowed to depict the tension member as a whole. Currently, it appears that references characters 1-3 point to the same component.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "optical fiber in the strand" (claim 32, line 4) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended". If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes, the

applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 25 is objected to because of the following informalities:

regarding claim 25, the comma in line 7 should be deleted. Appropriate correction is required. For purposes of examining the instant invention, the examiner has assumed these corrections have been made.

Claim Rejections - 35 USC § 103

Claims 22, 26, 27, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paulshus, WO 98/395325, in view of Brandestini, 4,068,963.

Regarding claim 22, Paulshus discloses, a termination of one end of a tension member **1** comprising multiple strands **2**. The strands **2** comprise fibers selected from the group consisting of carbon fibers, aramid fibers, and glass fibers (see page 3, lines 19-21) and the fibers having a lower shear force and durability than steel (see page 2, lines 12-15). A transitional zone (near reference **10** in Fig. 4) in the tension member **1** where the strands **2** are spread apart. At least one receiving body **3**. Each of the strands **2** in the transitional zone **10** are inserted into a narrow end **A5** (see marked-up

attachment provided in the last Office action) of a respective conical hole **A6** in the at least one receiving body **3** and fixed in relation to the hole by a hardened mass **5**. However, Paulshus fails to disclose the wall of the conical hole **A6** having a slip agent applied thereto such that the hardened mass **5** is prevented from adhering to the wall.

Brandestini teaches, in Figures 1 or 2, a slip agent **50** applied to a wall of a respective hole to act as a suitable friction-reducing agent (col. 2, lines 46-56). Therefore, as taught by Brandestini, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply a slip agent to the wall of the respective hole of Paulshus to act as a suitable friction-reducing agent. Placing the slip agent is beneficial because it would prevent torsional shear due to torsional loads on the bundles. Applicant should note that the slip agent **50** inherently prevents the hardened mass from adhering to the wall of the respective hole.

Regarding claim 26, the strands **2** are anchored in the holes **A6** in the receiving body**3**, and the holes **A6** are arranged in at least one ring around a center of the receiving body **3**. Note that Figure 4 shows several holes around a center of the receiving body **3**.

Regarding claim 27, the holes **A6** taper inward in a direction towards the tension member **1**.

Regarding claim 34, Paulshus discloses, in Figure 6d, a termination of one end of a tension member **1**. The tension member comprises strands **2**. The termination comprises a receiving body **3** with a circular pattern of conical holes **4** piercing the receiving body **3** and oriented with their narrower ends opening toward the tension member. The strands **2** extend from the tension member through a transition zone into the receiving body **3** wherein each of the strands **2** extends through the narrower ends into a the conical holes **4**. Each of the strands **2** terminates in a hardened mass **5** within the conical holes **4**. Applicant should note that the receiving body is able to be connected to a selected structure **7** (Figure 1). However, Paulshus fails to disclose the hardened mass **5** not adhered to the wall of the conical holes **4** by the presence of a slip agent therebetween.

Brandestini teaches, in Figures 1 or 2, a slip agent **50** applied to a wall of a respective conical hole to act as a suitable friction-reducing agent (col. 2, lines 46-56). Therefore, as taught by Brandestini, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply a slip agent to the wall of the respective hole of Paulshus to act as a suitable friction-reducing agent. Placing the slip agent is beneficial because it would prevent torsional shear due to torsional loads on the bundles. Applicant should note that the slip agent **50** inherently prevents the hardened mass from adhering to the wall of the respective hole.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andrews, 3,778,869, in view of Paulshus, WO 98/395325.

Regarding claim 24, Andrews discloses, in Figure 2, a termination of one end of a tension member **A1** (see marked-up attachment provided in the last Office action). The tension member **A1** comprises strands **16**. The termination comprises a transitional zone **A4**, a first receiving body **13**, a second receiving body **12**, and a retention screw **40**. The transitional zone **A4** is in the tension member **A1**. The strands **16** are spread apart. Each of the strands **16** is inserted into the narrower end of a respective hole **14** in one of the at least two receiving bodies. The first receiving body **13** and the second receiving body **12** are joined together such that at least one of the strands **16**, secured in the second receiving body **12** extends beyond the first receiving body **13**. The retention screw **45** extends from a central bore in the second receiving body **12**. A sleeve **27** is connected to the second receiving body **12** by the retention screw **40** extending from a central bore **42** in the second receiving body **12** and a nut **32** thereon.

However, Andrews fails to disclose each of the strands **16** comprises a plurality of fibers. Paulshus teaches strands comprised of fibers for sustaining greater strength when subjected to tensile stress (page 2, lines 16-19). Therefore, as taught by Paulshus, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to make the strands comprised of fibers for sustaining greater strength when subjected to tensile stress.

Claims 23, 29, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andrews, 3,778,869, in view of Paulshus, WO 98/395325, and Brandestini, 4,068,963.

Regarding claim 23, Andrews discloses, in Figure 5, a termination of one end of a tension member **A1** (see marked-up attachment provided in the last Office action). The tension member **A1** comprises strands **16**. The termination comprises a transitional zone **A4**, a first receiving body **13**, a second receiving body **12**, and a retention screw **45**. The transitional zone **A4** is in the tension member **A1**. The strands **16** are spread apart. Each of the strands **16** is inserted into the narrower end of a respective conical anchor hole **14** in one of the at least two receiving bodies and fixed in relation to the hole **14** by a hardened mass **26**. The first receiving body **13** and the second receiving body **12** are joined together in a concentric relationship via adjoining surfaces **A2**. The first receiving body **13** has a smaller diameter **A9** than the second receiving body **12**, thereby allowing at least one of the strands **16** secured in the second receiving body **12** to extend beyond the first receiving body **13**. The retention screw **45** extends from a central bore in the second receiving body **12**.

However, Andrews fails to disclose each of the strands **16** comprises a plurality of fibers, and Andrews fails to disclose a slip agent applied to the wall of each of the holes so that the hardened mass is prevented from adhering to the wall of the holes.

Paulshus teaches that strands are comprised of fibers for sustaining greater strength when subjected to tensile stress (page 2, lines 16-19). Therefore, as taught by Paulshus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the strands comprised of fibers for sustaining greater strength when subjected to tensile stress.

Brandestini teaches, in Figures 1 or 2, a slip agent **50** applied to a wall of a respective hole to act as a suitable friction-reducing agent (col. 2, lines 46-56). Therefore, as taught by Brandestini, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply a slip agent to the wall of the respective hole to acts as a suitable friction-reducing agent. Applicant should note that the slip agent **50** inherently prevents the hardened mass from adhering to the wall of the respective hole since the slip agent will be between the wall of the hole and the hardened mass.

Regarding claim 29, the holes **14** taper inward in a direction towards the tension member **A1**.

Regarding claim 31, the holes **14** are arranged in at least one ring around a center of second receiving body **12**.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stubbs, 3,588,045, in view of Paulshus, WO 98/395325.

Regarding claim 25, Stubbs discloses, in Figure 2, a termination of one end of a tension member. The tension member comprises strands **16**. The termination comprises a transitional zone, in which the strands **16** are spread apart (more than one is envisioned thus spread apart), a first receiving body **24**, a second receiving body **37**, and prestressed bolts **A2** (see marked-up attachment). The transitional zone is in the tension member. The first receiving body **24** has a smaller diameter **A5** than the second receiving body **37**. The first receiving body **24** and the second receiving body **37** are joined together with the bolts **A2** which extend though a through bore **A1** in the second receiving body **37** and down into a threaded blind hole **A3** in the first receiving body **24**. The strands **16** are inserted into respective holes **51** in one of the at least two receiving bodies **37,24**, and fixed in relation to their holes by a hardened mass **29**. A plurality of the strands **16** extends beyond the first receiving body **24** and anchored in their respective holes in the second receiving body **37**.

However, Stubbs fails to disclose each of the strands **16** comprises a plurality of fibers. Paulshus teaches strands comprised of fibers for sustaining greater strength

when subjected to tensile stress (page 2, lines 16-19). Therefore, as taught by Paulshus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the strands comprised of fibers for sustaining greater strength when subjected to tensile stress.

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andrews, 3,778,869, in view of Paulshus, WO 98/395325, and Brandestini, 4,068,963, as applied to claims 23, 29, and 31, above, and further in view of D'Agostino et al., 5,182,779.

Regarding claim 32, Andrews, as modified by Paulshus and Brandestini, discloses an end of at least one of the strands **16**, secured in the second receiving body **12**, is accessible at a surface of the second receiving body **13** opposite the tension member A**1** such that there is access to a fiber in the strand. However, the fiber is not an optical fiber. D'Agostino et al. teach a fiber optic is included in a strand to detect strains and stresses in the strand (see abstract). Therefore, as taught by D'Agostino et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to make one of t he carbon fibers in the strand an optic fiber to detect strains and stresses in the carbon.

Allowable Subject Matter

Claim 28 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

regarding claim 28, the prior art of record does not disclose or suggest a termination of one end of a tension member comprising holes in a second receiving body arranged in at least one ring around a center of the second receiving body (lines 3-4) in combination with a first receiving body having a smaller diameter than the diameter of the ring formed by the holes (lines 4-5). The closest prior art, Stubbs, 3,588,045, Paulshus, WO 98/39532, and Andrews, 3,778,869, teach the holes arranged in a ring, however, the first receiving body does not have a smaller diameter than the diameter of the ring. Further, there is no suggestion to provided this modification because in Paulshus, the receiving body is made of one piece, see Figs. 1-3, and both in Andrews and Stubbs, the diameter of the first receiving body is larger than the diameter of the ring formed by the holes 26.

Response to Arguments

Applicant's arguments filed June 5, 2006 have been fully considered but they are not persuasive.

Applicant argues that Brandestini is not about tension and that is silent on the issue about the distribution of tensile stress within the anchoring head. This is not found persuasive since the claims are not directed to a method of distributing tensile stress within an anchoring head, but rather a termination of one end of a tension member. Further, the claims do not set forth that the tension member is under stress. Applicant further argues that Brandestini does not use a slip agent in the anchoring head. In response, it is noted that the features upon which applicant relies (i.e., a slip agent in the anchoring head) are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Further, in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant further argues that Brandestini's combination with Paulshus is therefore inappropriate and inadequate to support the rejection in this case. In response, applicant has failed to point out why the combination is inappropriate or inadequate. Applicant continues than to argue that the there is no teaching, suggestion or motivation and discusses that the obviousness rejection cannot be concluded by the mere presence of a connecting hole in both structures. In response, applicant should note that the obviousness rejection is not based on the connecting hole but rather the use of the slip agent. Further, the motivation provided to use a slip agent is not a conclusory statement when the reference provides factual evidence of using a slip agent, i.e., the rational reasoning. Further, it should be noted that the rejection is based on Paulshus being modified by Brandestini and not the other way around.

With respect to the telephone interview request set forth on page 11 of the response, it is noted that applicant has failed to set forth what proposal(s) he wishes to discuss. Applicant makes reference to a "significant difference of opinion". However, without any indication of what applicant wishes to propose to overcome this difference of opinion, it would appear that a clear issue exists for purposes of appeal. Should applicant continue to believe that an interview would facilitate resolution of the difference of opinion and advance prosecution, then applicant should contact the examiner to schedule one. Note that such contact must also include indication of the proposal that applicant wishes to discuss.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. In particular, the recitations "the narrower end of a respective conical anchor hole" in claim 23, lines 6-7, "said hardened mass being not adhered to the wall of said hole by the presence of a slip agent therebetween" in claim 23, lines 8-9, "a sleeve" in claim 24, line 11, "said sleeve connected to the second receiving body" in claim 24, line11-12, and "of one end of a tension member in which said tension member comprises multiple strands and the strands consists of a plurality of fiber filaments" in claim 25, lines 3-5, necessitated the new grounds of rejection. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernesto Garcia whose telephone number is 571-282-7083. The examiner can normally be reached from 9:30-5:30. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached at 571-272-7087.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

E.G.

November 12, 2006
Attachment: one marked-up page of Stubbs, 3,588,045

DANIEL P. STODOLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600

Stubbs, 3,588,045

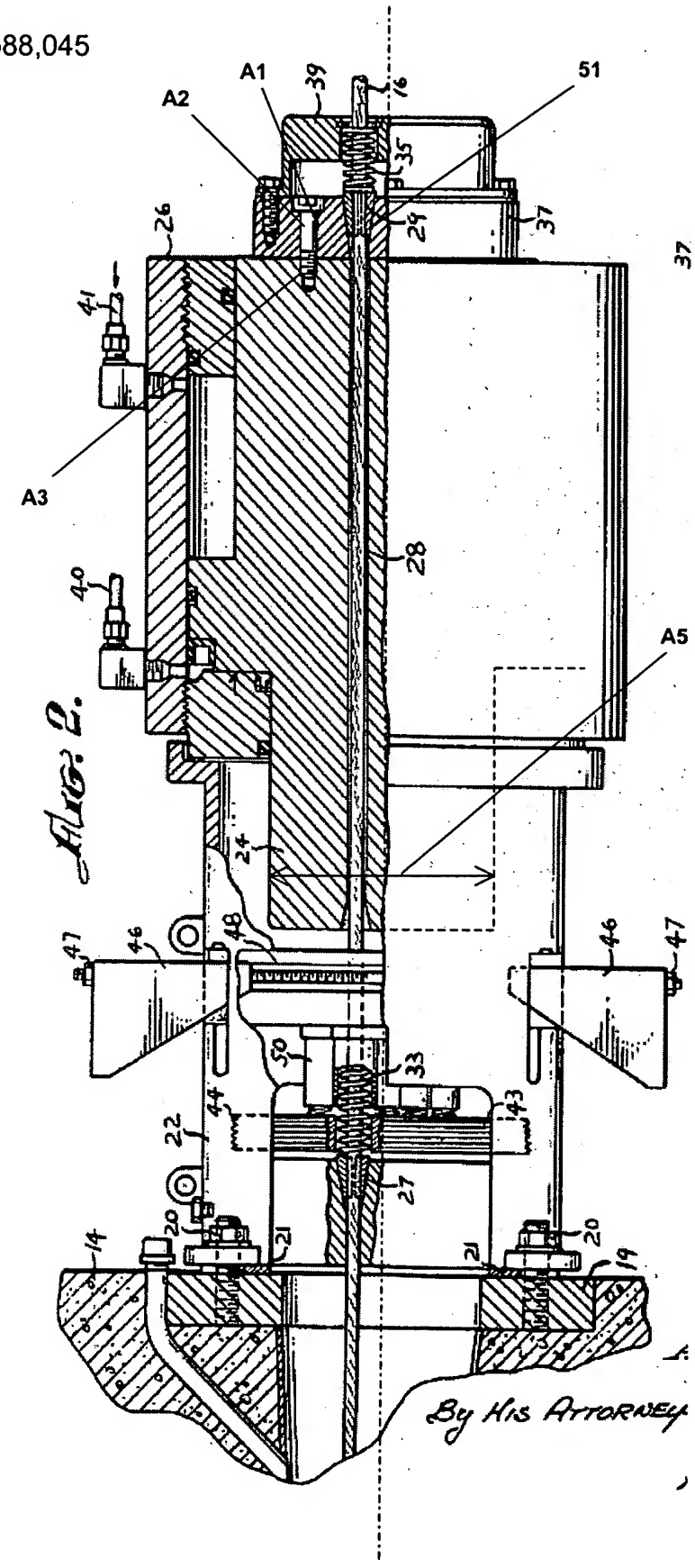

Fig. 2.